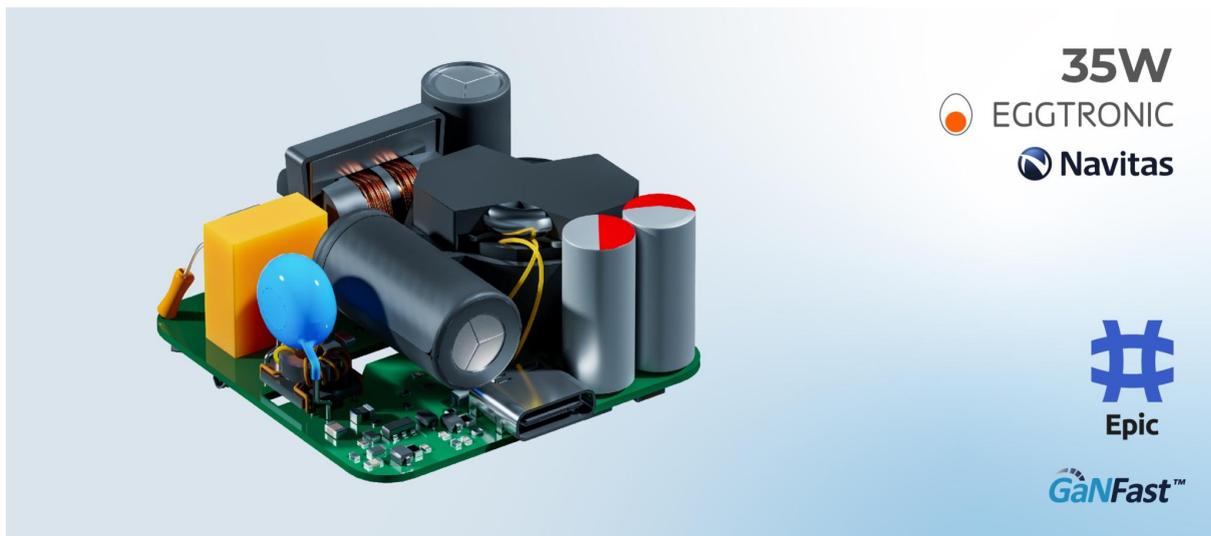




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Eggtronic and Navitas Partnership Delivers Platform for Developing 35W GaN-Based ZVS Fast Chargers with Industry-Leading Power Densities

Innovative QuarEgg™ ZVS AC-DC controller and next-gen GaN powertrain integrated into high-efficiency evaluation board



PCIM Nuremberg, Germany, 10th May 2022 – Power conversion controller specialist Eggtronic and Navitas Semiconductor (Nasdaq: NVTS), the industry leader in gallium nitride (GaN) power ICs, have announced a QuarEgg evaluation board that will speed the development and implementation of the industry's most-efficient and highest-power-density fast-chargers and power adapters.

QuarEgg is an innovative, proprietary Zero Voltage Switching power architecture that has been designed to significantly improve the efficiency and reduce the size of AC/DC converters. The architecture maximizes the performance, minimizes the form factor and improves the reliability of AC/DC power schemes in applications ranging from USB-C Power Delivery fast chargers and adapters for mobile devices and laptops to power supplies for loudspeakers and smart home assistants.

GaN is a next-generation semiconductor technology that runs up to 20x faster than legacy silicon and enables up to 3x more power, 40% energy savings and 3x faster charging in half the size and weight.

The new 35W AC/DC evaluation board brings together the QuarEgg ZVS architecture integrated in an Eggtronic EPIC101AFQE01 secondary side mixed-signal controller embedding USB Power Delivery 3.1, Synchronous Rectification, no-opto control of primary side FET, and Navitas' innovative GaN technology. Compared to conventional silicon-based designs built using active clamp flyback (ACF) or quasi-resonant (QR) topologies, this combination offers significantly improved AC/DC conversion performance and efficiency and much smaller product form factors. In addition, when compared to the silicon counterpart based on the same QuarEgg controller, GaN offers a further 8% energy savings.



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The new AC/DC development board measures just 38.3 x 38.3 x 18.55 mm and incorporates all of the components needed for a USB-PD or fixed-output converter. Peak efficiency is in excess of 94.1%, while a very flat efficiency curve ensures maximum efficiency and minimum power losses across the widest possible range of loads. This includes an unmatched 91% efficiency when in light load conditions (10% of maximum load), which is fundamental for devices that are always plugged in and draining power from the mains. By using the development board designers can also minimize standby power thanks to a no-load power consumption that is below 18 mW. Additionally, the board accommodates a wide input voltage range of 90 VAC to 264 VAC, with outputs ranging from 5 V/3 A to 23 V/1.52 A.

“Performance, power density and sustainability are at the top of the design agenda when it comes to developing new generations of controllers for ZVS AC/DC converters, adapters and fast chargers,” says Igor Spinella, Eggtronic’s founder and CEO. “By incorporating Navitas’ GaN technology into a QuarEgg-based design, we created a platform that enables one of the industry’s best power density systems with the lowest light-load and standby consumption.”

“Eggtronic has pioneered high-density power conversion, partnering with Navitas since 2019,” said Navitas CEO and co-founder Gene Sheridan. “As we look to ‘Electrify our World™’ GaN has a critical role to play both in delivering the fast-charging and ultra-portability that customers demand while improving energy efficiency and reducing global CO₂ emissions. The new QuarEgg platform represents another significant milestone in superior charging-design for lower-power devices.”

Contact Eggtronic at <https://www.eggtronic.com/quaregg/> for more information and availability of the new evaluation board.



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About Eggtronic:

[Eggtronic](#) has been revolutionizing the world of power converters and wireless power since 2012. Based in San Francisco, Modena, Italy, Taipei, Taiwan, and Guangzhou, China, Eggtronic develops cutting-edge, environmentally-friendly and energy-efficient technologies, with more than 240 international patents granted worldwide. 2020 saw the launch of the new ICs division that has been producing its first microchips since 2021. Whether through B2B partnerships in the consumer, automotive, or industrial fields, or for everyday consumers, Eggtronic invents revolutionary power technologies to make modern life easier, more efficient and more connected.

www.eggtronic.com

About Navitas:

[Navitas Semiconductor](#) (Nasdaq: NVTX) is the industry leader in GaN power ICs, founded in 2014. GaNFast power ICs integrate GaN power with drive, control, sensing and protection to enable faster charging, higher power density and greater energy savings for mobile, consumer, enterprise, eMobility and new energy markets. Over 145 Navitas patents are issued or pending, and over 50 million units have been shipped with zero reported GaN field failures. Every GaNFast power IC shipped [saves 4 kg of CO₂](#) emissions. Navitas [rang the Nasdaq opening bell](#) and started trading on Nasdaq on October 20th, 2021.

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